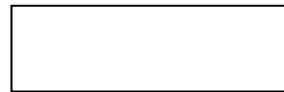
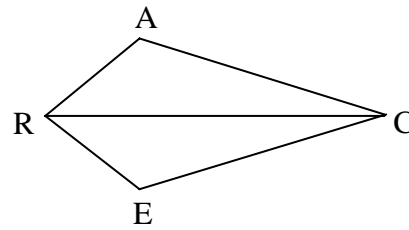


Flow Chart Proofs

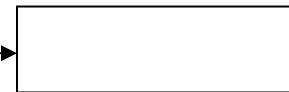
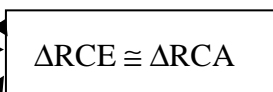
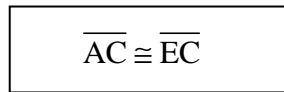
Fill in the missing reasons or statements in each proof.

1. Given: $\overline{AR} \cong \overline{ER}$
 $\overline{AC} \cong \overline{EC}$

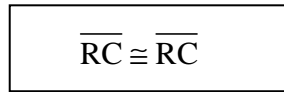
Prove: $\angle E \cong \angle A$



Given



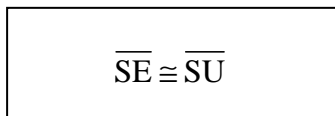
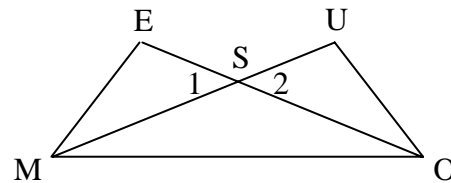
Definition of
congruent triangles
or CPCTC



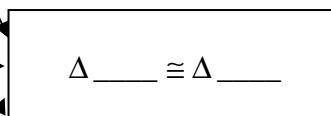
Reflexive property
of congruence

2. Given: $\overline{SE} \cong \overline{SU}$
 $\angle E \cong \angle U$

Prove: $\overline{MS} \cong \overline{SO}$



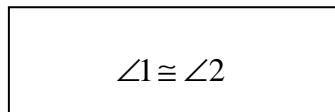
Given



Angle-Side-Angle
congruence



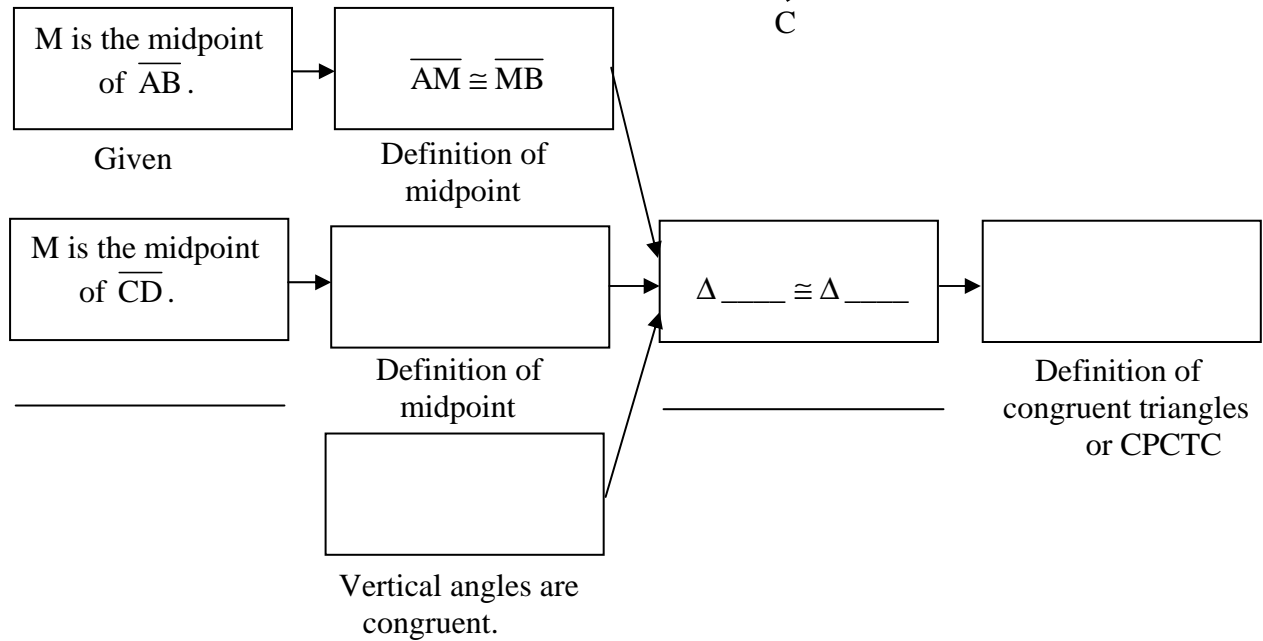
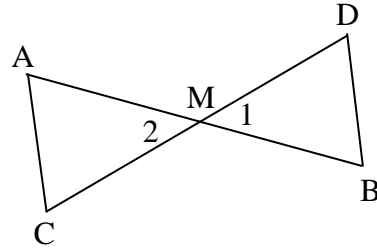
Definition of
congruent triangles
or CPCTC



Flow Chart Proofs (Continued)

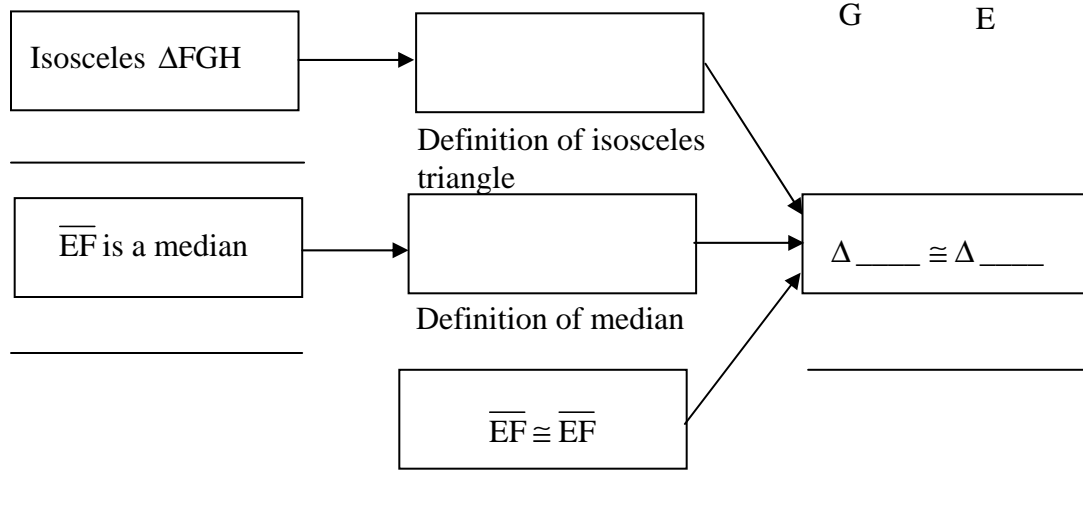
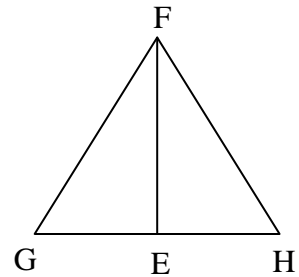
3. Given: M is the midpoint of \overline{AB} .
 M is the midpoint of \overline{CD} .

Prove: $\overline{AC} \cong \overline{BD}$



4. Given: Isosceles $\triangle FGH$ with base \overline{GH}
 \overline{EF} is a median

Prove: $\triangle GFE \cong \triangle HFE$



Answers:

1.

$\overline{AR} \cong \overline{ER}$
Given

$\overline{AC} \cong \overline{EC}$
Given

$\triangle RCE \cong \triangle RCA$
Side-side-side triangle congruence

$\angle E \cong \angle A$
Definition of congruent triangles or CPCTC

$\overline{RC} \cong \overline{RC}$
Reflexive Property of congruence

2.

$\overline{SE} \cong \overline{SU}$
Given

$\angle E \cong \angle U$
Given

$\triangle SEM \cong \triangle SUO$
Angle-Side-Angle triangle congruence

$\overline{MS} \cong \overline{SO}$
Definition of congruent triangles or CPCTC

$\angle 1 \cong \angle 2$
Definition of Vertical Angles

3.

M is midpoint of \overline{AB}
Given

$\overline{AM} \cong \overline{MB}$
Definition of midpoint

M is midpoint of \overline{CD}
Given

$\overline{CM} \cong \overline{MD}$
Definition of midpoint

$\triangle AMC \cong \triangle BMD$
Side-angle-side triangle cong.

$\overline{AC} \cong \overline{BD}$
Definition of triangle cong. or CPCTC

$\angle 1 \cong \angle 2$
Vertical angles are congruent

4.

Isosceles $\triangle FGH$
Given

$\overline{FG} \cong \overline{FH}$
Definition of isosceles triangle

\overline{EF} is a median
Given

$\overline{GE} \cong \overline{HE}$
Definition of median

$\triangle GFE \cong \triangle HFE$
Side-side-side triangle cong.

$\overline{EF} \cong \overline{EF}$
Reflexive Property of congruence